

GPNE CORP., ) Case No.: 12-CV-02885-LHK  
)  
Plaintiff, )  
v. ) ORDER GRANTING-IN-PART AND  
) DENYING-IN-PART APPLE’S MOTION  
) FOR SUMMARY JUDGMENT OF  
APPLE, INC., ) NONINFRINGEMENT AND  
) GRANTING APPLE’S MOTION FOR  
Defendant. ) PARTIAL SUMMARY JUDGMENT OF  
) INVALIDITY

## I. TECHNOLOGICAL BACKGROUND

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1994, now Pat. No. 5,542,115”); ’954 Patent (same); ’492 Patent (same). The June 1994 application, which is now Patent No. 5,542,115, pertains to “[a] two-way paging system [which] utilizes four local frequencies for transmissions between pager units and a central control station.” *See* ECF No. 72-1, Declaration of Christopher O. Green in Support of Defendants’ Claim Construction Brief, Ex. 1 (“’115 Patent”), Abstract (figure references omitted). The Patents-in-Suit each share the same specification, and this specification is nearly identical to the ’115 Patent’s specification. *See* ’267 Patent; ’954 Patent; ’492 Patent; ’115 Patent. As set forth in the specification for the Patents-in-Suit, the “invention pertains to communications paging, and particularly to two-way paging method and apparatus.” *See* ’267 Patent at 1:32-33; *see also id.* at 1:66-67 (describing “[a] two-way paging system [that] utilizes four local frequencies for transmissions . . . .”); *id.* at 14:14-15 (“[T]he invention provides a two-way paging system . . . .”). The specification describes the use of “four local frequencies for transmissions between pager units and a central control station.” *Id.* at 1:66-2:1. As set forth in the specification, frequencies one and two are used to transmit downstream, from the control station to the paging unit, while frequencies three and four are used to transmit upstream, from the paging unit to the control station. *See id.* at 1:66-2:9. This four frequency system enables two-way data communications between the paging unit and the control station. *Id.* at 1:66-2:9.

Turning to the claims in the Patents-in-Suit, the ’267 Patent includes claims directed toward apparatuses to which the claims refer as “node[s].” For example, claim 1 of the ’267 Patent, upon which two of the asserted claims depend, reads:

1. A first node in a data network, the data network including a plurality of nodes including a first node, the first node comprising:
  - at least one processor;
  - a memory providing code to the least one processor; and
  - an interface controlled by the least one processor to:
    - transmit a random access request signal in a first slot, the random access request signal including information that allows determination that the first node requires an allocation of resources to transmit a reserve access request signal;
    - receive a first grant signal subsequent to transmission of the random access request signal, said first grant signal including information relating to an allocation of a second slot to

the first node for transmitting the reserve access request signal for transmitting first data packets containing a message;

transmit the reserve access request signal in the second slot in response to the first grant signal;

receive a second grant signal subsequent to transmission of the reserve access request signal, said second grant signal including information relating to an allocation of additional resources for transmitting the first data packets; and

transmit the first data packets in response to the second grant signal, wherein the first data packets can be transmitted during transmission of a request signal by a second node into a third slot assigned to the second node.

'267 Patent at 14:60-15:21. The '954 and '492 Patents claim more specific implementations of the signaling interface, including an aligning signal and clocking signal, respectively.<sup>1</sup>

<sup>1</sup> For example, asserted claim 37 of the '492 Patent claims:

37. A first node in a data network, the data network including a plurality of nodes, the first node comprising:

at least one processor;

a memory providing code to the processor; and

at least one interface configured by the processor to:

transmit a random access request signal in a first slot, the random access request signal including information that allows determination that the first node requires an allocation of resources to transmit a reserve access request signal;

receive a first grant signal subsequent to transmission of the random access request signal, said first grant signal including information relating to an allocation of a second slot to the first node for transmitting the reserve access request signal for subsequently transmitting data packets containing a message;

receive an aligning signal which enables the first node to transmit the reserve access request signal;

transmit the reserve access request signal in the second slot subsequent to receiving the first grant signal;

receive a second grant signal subsequent to transmission of the reserve access request signal, said second grant signal including information related to an allocation of additional resources for transmitting the data packets;

transmit the data packets in response to the second grant signal,

wherein the first grant signal returns randomly generated information to the first node to enable identification of the first node as a desired recipient of the first grant signal;

wherein the interface further transmits information relating to a count value,

GPNE accuses nine Apple products of infringing the Patents-in-Suit. Three products (referred to as the “GPRS Accused Devices”) are accused based only on their compatibility with General Packet Radio Service (“GPRS”) networks: the iPhone 4 (GSM version), the iPhone 4S, and the iPad 2 (GSM model). Three products (referred to as the “LTE Accused Devices”) are accused based only on their compatibility with Long-Term Evolution (“LTE”) networks: the iPhone 5 (CDMA version), the iPad (3rd Generation) (CDMA version), and the iPad Mini (CDMA

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wherein the interface further transmits terminal indication information indicating that a final data packet is a last data packet; and

wherein the aligning signal is received on a first frequency, the reserve access request signal is transmitted on a second frequency, the second grant signal is received on a third frequency and the data packets are transmitted on a fourth frequency, wherein the first frequency, the second frequency, the third frequency and the fourth frequency are differing frequencies, wherein the aligning signal is distinct from the first grant signal.

’592 Patent at 21:8-52. In addition, claim 13 of the ’954 Patent, upon which asserted claims 19 and 22 depend, recites:

13. A first node in a data network, the data network including a plurality of nodes including a first node, the first node comprising:

at least one processor;

a memory providing code to the at least one processor; and

an interface controlled by the at least one processor to:

receive a clocking signal used to enable requests including a first request from the first node, the clocking signal provided from the first communication controller;

transmit the first request signal from the first node to the communication when the first node has a communication message to transmit;

receive an authorization signal from the first communication controller; and

transmit the communication message to the first communication controller subsequent to receiving said authorization signal;

wherein each of the clocking signal, the first request signal, the authorization signal, and the communication message are transmitted on differing frequencies, and

wherein the clocking signal enables a second request signal to be transmitted to the first communication controller by a second node, and wherein the second request signal can be provided simultaneous with transmission of the communication message by the first node.

’954 Patent at 16:52-17:13.

version). The final three products (referred to as both “GPRS Accused Devices” and “LTE Accused Devices”) are accused based on their compatibility with both GPRS and LTE networks: the iPhone 5 (GSM version), the iPad (3rd Generation) (GSM version), and the iPad Mini (GSM version).

## II. PROCEDURAL BACKGROUND

On July 1, 2011, GPNE filed a Complaint in the District of Hawaii against Apple, as well as Barnes & Noble, Sharp Company, and several other defendants. *See GPNE v. Amazon.com, Inc.*, Case No. 11-CV-00426 JMS RLP (D. Haw. 2011). Subsequently, the District Court in Hawaii severed the GPNE’s cases against each of the defendants in the Hawaii action and transferred several of the separate actions to the instant Court. *See id.*, ECF Nos. 246, 295; *GPNE Corp. v. Nokia Corp.*, Case No. 12-CV-00250 SOM RLP, ECF No. 14; *GPNE Corp. v. Pantech Co., Ltd. and Pantech Wireless, Inc.*, Case No. 12-CV-00251 SOM RLP, ECF No. 10. After the actions against the instant Defendants were transferred to the Northern District of California, this Court related the cases. *See GPNE v. Apple, Inc.*, Case No. 12-CV-2885 LHK PSG, ECF No. 35 (N.D. Cal. 2012).

After holding a tutorial and claim construction hearing on June 6, 2013, this Court issued an order construing disputed claim terms. *See* ECF No. 87. On October 16, 2013, GPNE, in compliance with the Court’s Case Management Order, *see* ECF No. 98, limited the case to the following ten asserted claims: claims 19 and 22 of the ’954 Patent, claims 13, 18, 30, 31, 39, and 42 of the ’267 Patent, and claims 37 and 44 of the ’492 Patent. ECF No. 107. Along with several *Daubert* motions and motions to strike, which will be addressed in a separate order, Apple filed its Motion for Summary Judgment of Noninfringement and Invalidity on February 27, 2014. *See* ECF No. 187 (“Mot.”). GPNE filed an opposition on March 13, 2014, *see* ECF No. 201 (“Opp.”), and Apple filed a reply on March 20, 2014, *see* ECF No. 220 (“Reply”). The Court held a hearing on Apple’s Motion for Summary Judgment on April 3, 2014.

## III. LEGAL STANDARD

Summary judgment is appropriate if, viewing the evidence and drawing all reasonable inferences in the light most favorable to the nonmoving party, there are no genuine disputed issues

of material fact, and the movant is entitled to judgment as a matter of law. Fed. R. Civ. P. 56(a); *Celotex Corp. v. Catrett*, 477 U.S. 317, 322 (1986). At the summary judgment stage, the Court “does not assess credibility or weigh the evidence, but simply determines whether there is a genuine factual issue for trial.” *House v. Bell*, 547 U.S. 518, 559-60 (2006). A fact is “material” if it “might affect the outcome of the suit under the governing law,” and a dispute as to a material fact is “genuine” if there is sufficient evidence for a reasonable trier of fact to decide in favor of the nonmoving party. *Anderson v. Liberty Lobby, Inc.*, 477 U.S. 242, 248 (1986). Mere conclusory, speculative testimony in affidavits and moving papers is insufficient to raise genuine issues of fact and defeat summary judgment. *See Thornhill Publ’g Co. v. GTE Corp.*, 594 F.2d 730, 738 (9th Cir. 1979).

The moving party bears the initial burden of identifying those portions of the pleadings, discovery, and affidavits that demonstrate the absence of a genuine issue of material fact. *Celotex Corp.*, 477 U.S. at 323. Where the moving party will have the burden of proof on an issue at trial, it must affirmatively demonstrate that no reasonable trier of fact could find other than for the moving party, but on an issue for which the opposing party will have the burden of proof at trial, the party moving for summary judgment need only point out “that there is an absence of evidence to support the nonmoving party’s case.” *Id.* at 325; *accord Soremekun v. Thrifty Payless, Inc.*, 509 F.3d 978, 984 (9th Cir. 2007). Once the moving party meets its initial burden, the nonmoving party must set forth, by affidavit or as otherwise provided in Rule 56, “specific facts showing that there is a genuine issue for trial.” *Liberty Lobby*, 477 U.S. at 250 (internal quotation marks omitted). If the nonmoving party’s “evidence is merely colorable, or is not significantly probative, summary judgment may be granted.” *Id.* at 249-50 (internal citations omitted).

#### IV. DISCUSSION

##### A. Apple’s Motion for Summary Judgment of Noninfringement

##### 1. Direct infringement

As the Federal Circuit has noted, summary judgment of noninfringement is a two-step analysis. “First, the claims of the patent must be construed to determine their scope. Second, a determination must be made as to whether the properly construed claims read on the accused

device.” *Pitney Bowes, Inc. v. Hewlett-Packard Co.*, 182 F.3d 1298, 1304 (Fed. Cir. 1999) (internal citation omitted). “[S]ummary judgment of non-infringement can only be granted if, after viewing the alleged facts in the light most favorable to the non-movant, there is no genuine issue whether the accused device is encompassed by the claims.” *Id.* at 1304. “Whether a claim is infringed under the doctrine of equivalents may be decided on summary judgment if no reasonable jury could determine that the limitation and the element at issue are equivalent.” *Zelinski v. Brunswick Corp.*, 185 F.3d 1311, 1317 (Fed. Cir. 1999) (citing *Warner-Jenkinson Co. v. Hilton Davis Chem. Co.*, 520 U.S. 17, 39 n. 8 (1997)).

All of the parties’ arguments on direct infringement concern the “node” limitation. In its claim construction order, the Court construed a “node” to be a “pager with two-way data communications capability that transmits wireless data communications on a paging system that operates independently from a telephone network.” Order Construing Claims at 18-19. Apple parses this construction into two parts, arguing (1) that its accused iPhones and iPads are not “pagers,” and (2) that they do not “transmit wireless data communications on a paging system that operates independently from a telephone network.” Because material factual issues remain as to each limitation, the Court denies Apple’s motion for summary judgment of no direct infringement.

**a. Whether the accused devices are “pagers”**

Apple argues that iPhones and iPads are not “pagers.” GPNE argues that iPhones and iPads are both smartphones and “pagers” within the meaning of the patent claims. The Court will first observe that the parties agreed on two issues at the *Markman* hearing: (1) that whether the accused devices are “pagers” is “a fact-based issue,” and (2) that “pager” can be defined by the rest of the Court’s construction of “node” (i.e., whether the device “operates independently from a telephone network”). Next, the Court will review Apple’s evidence favoring summary judgment, followed by GPNE’s evidence in opposition, concluding that genuine issues of material fact remain for trial.

Apple has previously conceded that the definition of “pager” is a fact issue dependent on whether the accused device operates independently from a telephone network. At the *Markman* hearing, the Court anticipated that the parties would debate the meaning of “pager” at summary judgment and asked how the parties would resolve the issue. *See* ECF No. 201-5 (“*Markman*



Hearing”) at 81:25-82:2 (“So tell me, then what is a pager? How are we going to define that? Are we going to need to have a subsequent claim construction on that term?”). In response, Apple’s counsel repeatedly explained that “[i]t becomes a fact-based issue,” *id.* at 85:10, and that the Court and, if necessary, the jury, would need to look at “what kind of network that pager operates in,” *id.* at 84:5-6. Apple’s counsel continued that “[i]f we’re setting up a construction of the term ‘pager,’ then we would look to what kind of network does that device connect to? What kind of componentry is within that device? What kind of data would it be capable of sending and receiving?” *Id.* at 85:2-6. The issue of how to interpret the term “pager” consistently circled back to the issue of whether the accused device “is intended to operate independent of a telephone network.” *Id.* at 85:21-22. Later, GPNE’s counsel accurately summarized Apple’s position at the *Markman* hearing in stating that “I think that we never got a real clear answer about what does ‘pager’ means [sic] other than this is a way we, you know, shoehorn in our argument for ‘operating independently of the telephone,’ because a pager is independent of a telephone.” *Id.* at 88:18-21.

Now, at summary judgment, Apple attempts to use the Court’s inclusion of “pager” in the “node” construction as a separate reason to find noninfringement. Although the Court could heed Apple’s representations at the *Markman* hearing and allow “pager” to be defined by the rest of the Court’s construction of “node” (i.e. as a device having a “two-way data communications capability that transmits wireless data communications on a paging system that operates independently from a telephone network”), the Court nonetheless considers Apple’s arguments that its accused devices are not “pagers.”

The Court finds that Apple has not met its burden of proving that there is an absence of evidence to support GPNE’s argument that the accused devices are “pagers.” It is undisputed that iPhones and iPads use only modern cellular systems like General Packet Radio Service (“GPRS”) and Long Term Evolution (“LTE”) for data communication. The infringement question presented here, then, is whether a “pager” can use GPRS and LTE systems. Apple cites four documents that it claims prove that iPhones and iPads are not pagers. ECF No. 187-22, Wilson Decl. Ex. 1, Independent Panel Reviewing the Impact of Hurricane Katrina on Communications Networks, “Report and Recommendations to the Federal Communications Commission, June 12, 2006”



(“FCC Study”); ECF No. 187-24, Wilson Decl. Ex. 3; ECF No. 187-27, Wilson Decl. Ex. 6, TR 101 037 V1.1.1 (1997-07) (“ETSI Document”); ECF No. 187-25, Wilson Decl. Ex. 4, World Telecommunication Day 2000, Making the Most of Mobility (“ITU Document”). The Court finds that, while all four documents refer separately to paging systems and cellular systems, they do not conclusively demonstrate that a device that accesses a cellular system cannot also be a pager.

First, in the context of reviewing the “Effect of Hurricane Katrina on Various Types of Communications Networks,” FCC Study at 6, the FCC states that “[p]aging systems seemed more reliable in some instances than voice/cellular systems because paging systems utilize satellite networks, rather than terrestrial systems, for backbone infrastructure.” *Id.* at 10. Second, Apple also notes that the FCC assigns separate frequency bands for what it calls “commercial paging,” “advanced wireless services,” and “cellular service.” ECF No. 187-24, Wilson Decl. Ex. 3; *see also* Federal Communications Commission, “Advanced Wireless Services,” *available at* <http://www.fcc.gov/encyclopedia/advanced-wireless-services-aws>; Federal Communications Commission, “Cellular Service,” *available at* <http://www.fcc.gov/encyclopedia/cellular-service>. Third, Apple’s 1997 ETSI document distinguishes two-way paging technologies from 1997 voice call cellular technologies by “[t]he non-real time nature of the communications,” “[t]he absence of the need for continual location updating,” “[t]he use of simulcast techniques in the network to mobile direction,” “[s]maller size for the mobile unit,” and “[l]ower power consumption.” ETSI Document at 10. Finally, the 2000 ITU document celebrating “radio-based paging” exclaims that “[w]hile cellular mobile, and especially Short Message Service (SMS) capability, has stolen a little of the limelight of late, markets for paging services around the world continue to show strong growth.” ITU Document at 1.

GPNE, however, does not dispute that smartphones and tablets are not commonly called “pagers.” Rather, GPNE argues that modern-day cellular networks include paging technologies that allow devices on the networks to be properly called pagers, at least within the scope of the meaning of “pager” as understood at the time the patent application was filed. *See Phillips v. AWH Corp.*, 415 F.3d 1303, 1313 (Fed. Cir. 2005) (“We have made clear, moreover, that the ordinary and customary meaning of a claim term is the meaning that the term would have to a person of ordinary

skill in the art in question at the time of the invention, i.e., as of the effective filing date of the patent application.”). In support, GPNE presents several FCC documents, numerous dictionary definitions, and expert testimony. For example, in defining “paging,” the FCC explains that “most digital mobile telephone handsets include a paging component or Caller ID feature that allows users to view the phone number of someone who has called them. Narrowband [Personal Communications Services (“PCS”)] licensees offer more advanced two-way paging type services.” *See* ECF No. 201-9, Susser Decl. Ex. G. The FCC also defines “Narrowband PCS (Narrowband Personal Communications Services)” as including “wireless telephony, data, advanced paging, and other services.” ECF No. 201-10, Susser Decl. Ex. H. Further, GPNE presents definitions of “pager,” “paging system,” or “paging device” from the IBM Dictionary of Computing, the Microsoft Computer Dictionary, and the McGraw-Hill Dictionary of Scientific and Technical Terms that are consistent with its broader interpretation of “pager” to include the accused iPhones and iPads. *See* Opp. at 5, n. 5; ECF Nos. 201-6-201-8, Susser Decl. Ex. D-F. Lastly, GPNE’s expert, Dr. Esmael Dinan, opines that while the networks operated by companies like T-Mobile and AT&T are not commonly referred to as “paging networks,” such networks can be understood as “a cellular system that includes the service of paging.” ECF No. 201-13, Susser Decl. Ex. K, Dinan Deposition Tr. at 76:9-77:2.

GPNE thus contradicts Apple’s evidence with substantial evidence of its own showing that iPhones and iPads can be considered “pagers” in addition to smartphones and tablets. As such, GPNE presents sufficient evidence for a reasonable jury to conclude that the accused devices are “pagers.” Especially in light of Apple’s suggestions at the *Markman* hearing that whether the accused devices are “pagers” is an “issue of fact” and that “pager” can be defined in the context of whether the device can communicate on a network independent of the telephone system—an issue the Court will address next—summary judgment of noninfringement on “pager” is improper. Therefore, a genuine issue of material fact as to whether the accused devices are “pagers” remains for resolution at trial.

**b. Whether the accused devices “have the capability to communicate on a paging system that is independent of the telephone system”**

Even though Apple is not entitled to summary judgment of noninfringement on the basis that its iPhones and iPads are not “pagers,” Apple would still be entitled to summary judgment if its accused devices do not “have the capability to communicate on a paging system that is independent of the telephone system.” Order Construing Claims at 18. However, here too material factual disputes preclude summary judgment.

Although the parties generally address GPRS Accused Devices and LTE Accused Devices together in their briefs, GPRS and LTE networks are sufficiently distinct in their operation that the Court will review each separately. Additionally, Apple in its reply asserts that GPNE fails to present any evidence as to LTE Accused Devices. As such, the Court will first analyze independence from a telephone system with respect to GPRS, followed by LTE.

#### **i. GPRS Accused Devices**

Apple presents evidence—almost entirely from GPNE’s expert—that GPRS networks share resources with the telephone network. *See* ECF No. 187-2, Green Decl. Ex. A, Dinan Deposition Tr. at 81:3-82:5 (“Q. If the resources shared by the GPRS protocol and the other parts of the telephone network are lost then the ability to transmit messages using the GPRS protocol is also lost; is that fair? A. That is correct, yes.”). GPNE concedes that GPRS operates on the Global System for Mobile Communications (“GSM”) network, which is a telephone network. *Id.* at 89:2-3 (“GSM networks are phone networks”); ECF No. 201-11, Susser Decl. Ex. I, Dinan Expert Report ¶¶ 118-19 (“The GPRS system was an ‘overlay’ on the GSM legal system”). According to GPNE’s expert Dr. Dinan, the GPRS relies on the GSM resources for authentication and synchronization. Dinan Deposition Tr. at 87:8-19.

Still, despite Apple’s evidence, GPNE presents sufficient counter evidence to create a genuine issue of material fact on whether GPRS networks have the capability to operate independently from a telephone network. According to GPNE, the GPRS system was built as an overlay on the pre-existing GSM network as a matter of economic efficiency. ECF No. 201-16, Susser Decl. Ex. N, Dinan Rebuttal Report ¶ 76; ECF No. 201-17, Susser Decl. Ex. O, Tan Deposition Tr. at 88:21-25, 89:1-7, 90:5-25, 91:1-25. GPRS and GSM share resources, but GPRS is entirely operationally independent of GSM telephone networks. Dinan Expert Report ¶ 118; Tan

Deposition Tr. at 88:21-25, 89:1-7, 90:5-25, 91:1-25; ECF No. 202-4, Susser Decl. Ex. P, “Super GPRS – S-GPRS T-DAMA Enhanced GPRS,” at 2. Dr. Dinan analogizes GPRS and GSM to two law firms in a single building. The law firms may share the same infrastructure—e.g., parking spaces, elevators, lobbies, and conference rooms—while still remaining operationally independent. Dinan Expert Report ¶ 118. As juries must determine “whether the properly construed claims read on the accused device,” whether sharing resources negates any possibility of operational independence is a factual question for the jury. *Pitney Bowes*, 182 F.3d at 1304.

To get more technical, Dr. Dinan’s conclusion that GPRS and GSM networks share infrastructure but remain operationally independent is based on GPRS’s inclusion of packet switching capability in addition to circuit switching. The original GSM telephone networks rely on circuit switching. According to Dr. Dinan, circuit switching establishes a “transmission session” between a transmission site and a network. Dinan Rebuttal Report ¶ 67. That session is then allocated a given transmission rate, and a path is “created from the transmitting site through the network to the destination terminal. The communication links along the path allocate a portion of its total transmission capacity to the communication link.” *Id.* Significantly, in a circuit switched system, the network transmission resources are allocated to the session “no matter whether packets are transmitted or not.” *Id.* For telephone calls, this system works well because call data is a constant stream of information. However, for data transmission, circuit switching is inefficient because data is sent and received in bursts, yet network resources are allocated to the session even when there is no data transmission. *Id.* ¶ 68.

Packet switching networks, by contrast, allocate resources based on data transmission activities. Dinan Rebuttal Report ¶ 69. When sections of data—called data packets—are transmitted, the network reserves resources to accommodate the packets. *Id.* ¶ 70. When no packets are transmitted, “no radio resource circuits are reserved.” *Id.* Therefore, Dr. Dinan concludes that “[w]hile GSM is a wireless platform that uses radio frequencies, it was designed exclusively for circuit-switched services, and uses circuit switched transmission. GPRS is a [sic] thus a separate packet data network from GSM which provides a packet based platform both for data transfer and

1 signaling.” *Id.* ¶ 86. Consequently, “GPRS is an operationally independent packet data network  
2 from GSM, while GSM is operationally a telephone network.” *Id.*

3 This evidence alone creates a genuine issue of material fact for trial, but Dr. Dinan also  
4 conducted a simulation with a network emulator that he claims proves that iPhones and iPads are  
5 pre-programmed to operate independently of a telephone network. Specifically, Dr. Dinan acquired  
6 from Agilent a GPRS data network emulator—the same device that Apple and third party  
7 certification entities use for internal product testing—to simulate a GPRS network in a lab. The  
8 artificial GPRS network built by Dr. Dinan was “not connected to any telephony network.” Dinan  
9 Expert Report ¶ 51. According to Dr. Dinan, the accused devices in testing were capable of data  
10 communications on the GPRS network without being connected to any telephone network. *Id.* at  
11 ¶ 116.

12 Apple contends that the Court should disregard Dr. Dinan’s emulator test for two principal  
13 reasons: (1) the Agilent equipment emulates components that are part of a telephone network, not a  
14 paging network, and (2) the accused devices were not capable of connecting to the Agilent system  
15 without being modified to include an Agilent SIM card. The Court finds neither of these arguments  
16 persuasive. Apple’s first argument refers back to the previously addressed debate over whether the  
17 accused devices operate independently of a telephone network if the GPRS network shares  
18 resources with the GSM network. The Agilent equipment may emulate components of the GSM  
19 telephone network (by virtue of the fact that the GSM and GPRS networks require some similar  
20 components), but a reasonable jury could still find infringement based on the emulator test because  
21 the jury could find that the accused devices are pre-programmed to operate independently of a  
22 telephone network.

23 Apple’s second argument is a red herring. Dr. Dinan testified in his deposition that network  
24 supplied SIM cards have no effect on the claimed signaling. ECF No. 201-13, Susser Decl. Ex. K,  
25 Dinan Deposition Tr. at 287:22-288:11 (SIM cards are “irrelevant . . . because none of the  
26 parameters in the SIM card would affect the outcome of the messages because there is no  
27 parameter in the SIM card that is related to the messages that we have identified in the chart.”).  
28 Moreover, Apple does not supply SIM cards, which are required to connect to any network, so

under Apple's logic, no device sold by Apple is even capable of operating on a telephone network. *Id.* Therefore, Dr. Dinan's emulator test suffices as further evidence creating a genuine issue of material fact.

In sum, whether GPRS networks operate independently from a telephone network, despite sharing resources with the GSM telephone network and being overlaid on the GSM network, is a question of fact. *Southwall Techs, Inc. v. Cardinal IG Co.*, 54 F.3d 1570, 1575 (Fed. Cir. 1995) ("Infringement, both literal and under the doctrine of equivalents, is an issue of fact."). The jury would have to weigh Apple's evidence related to resource sharing against GPNE's evidence of independence, including Dr. Dinan's emulator test. Accordingly, Apple's motion for summary judgment of noninfringement is DENIED as to GPRS Accused Devices.

## **ii. LTE Accused Devices**

Apple offers two arguments specific to LTE Accused Devices in its motion for summary judgment. The Court finds that neither argument demonstrates the absence of a genuine issue of material fact, and, therefore, Apple is not entitled to summary judgment of noninfringement as to LTE Accused Devices.

First, Apple cites deposition testimony from Dr. Dinan, where he admits that, like GPRS networks, LTE networks share resources with telephone networks. *See* Dinan Deposition Tr. at 81:3-82:5 ("Q. Is it correct that for at least tier 1 operators when the resources that are shared between the Lte [sic] protocol and the telephone network are lost then the ability to transmit or receive messages using the Lte [sic] protocol is also lost? A. Yes."). This testimony parallels Dr. Dinan's testimony as to GPRS networks. Apple's argument here is thus identical to its argument as to GPRS networks: LTE networks do not infringe because sharing resources alone is sufficient proof that a network does not operate independently from a telephone network. However, as explained above, whether sharing resources negates any possibility of operational independence is a factual question for the jury. *Pitney Bowes*, 182 F.3d at 1304.

Second, Apple contends that "when an LTE device communicates data, it does not distinguish between voice or data." Reply at 15; ECF No. 187-28, Wilson Decl. Ex. 7. According to Apple, this means that LTE networks and telephone networks are one and the same. *Id.* GPNE,



1 however, takes a different view of LTE networks. According to Dr. Dinan, an LTE network does  
 2 not become a “telephone network” purely based on its ability to handle voice data. Rather, the fact  
 3 that LTE networks require voice data to take the same form as other mobile data—as data packets  
 4 used in packet switching—is proof that the LTE standard is even further divorced from GSM  
 5 telephone networks than the GPRS standard.

6 Explaining this point in detail necessitates a return to the previous section’s discussion of  
 7 packet switching networks and circuit switching networks. As described above, the GSM telephone  
 8 network relies only on circuit switching for data transmission. *See* Dinan Rebuttal Report ¶ 86; *see*  
 9 *also* Magdalena Nohrborg, *LTE Overview*, 3rd Generation Partnership Project (“3GPP”), *available*  
 10 *at* <http://www.3gpp.org/technologies/keywords-acronyms/98-lte> (“*LTE Overview*”) (“GSM was  
 11 developed to carry real time services, in a circuit switched manner”). GPRS was subsequently built  
 12 on top of the existing GSM network, adding packet switching capability. *LTE Overview* (“The first  
 13 step towards an IP based packet switched solution was taken with the evolution of GSM to GPRS,  
 14 using the same air interface and access method, TDMA (Time Division Multiple Access).”) (references to a figure omitted). In Dr. Dinan’s opinion, this packet switching capability is largely  
 15 what causes GPRS networks to operate independently of a telephone network. Dinan Rebuttal  
 16 Report ¶ 86; Dinan Expert Report ¶¶ 117-19. LTE networks go one step further, doing away  
 17 entirely with circuit switching. In an LTE network, both real time voice communications and  
 18 mobile data transmissions use packet switching. *See LTE Overview* (“The Evolved Packet System  
 19 (EPS) is purely IP based. Both real time services and datacom services will be carried by the IP  
 20 protocol.”). As a result, Dr. Dinan opines that LTE networks operate independently from telephone  
 21 networks for the same basic reason as GPRS networks—both use only packet switching techniques  
 22 for data communications. It is therefore no surprise that the parties generally address GPRS  
 23 Accused Devices and LTE Accused Devices together.

24 The Court will not grant Apple summary judgment of noninfringement as to LTE Accused  
 25 Devices merely because GPNE did not explicitly refer to LTE networks in its opposition.<sup>2</sup> As

26  
 27 <sup>2</sup> After the hearing on April 3, 2014, GPNE submitted an additional brief without leave of the  
 28 Court further addressing infringement as to the LTE Accused Products. *See* ECF No. 237. Apple  
 objected to this brief. *See* ECF No. 236. Because GPNE should have included its new arguments in



explained above, all of GPNE's evidence of infringement except for Dr. Dinan's GPRS-specific emulation test applies equally to LTE networks. Moreover, Dr. Dinan addresses GPRS and LTE separately in his expert report, providing detailed claim charts and accompanying explanations for each. Especially given that LTE's exclusive use of packet switching only strengthens Dr. Dinan's infringement argument, GPNE has presented sufficient evidence for a reasonable jury to conclude that the asserted claims' "node" limitation reads on the LTE Accused Devices. A genuine issue of material fact therefore persists. A reasonable jury could find that LTE's treatment of both voice data and mobile data as data packets renders an LTE network dependent on a telephone network. Alternatively, a reasonable jury could determine that LTE's shift to a pure packet switching system causes an LTE network to be independent of a telephone network. Therefore, as disputed facts clearly predominate over whether the accused iPhones and iPads are "pager[s] with two-way data communications capability that transmits wireless data communications on a paging system that operates independently from a telephone network," Order Construing Claims at 18-19, Apple's motion for summary judgment of no direct infringement is DENIED.

## 2. Indirect infringement

In its opposition, GPNE withdrew its allegations of indirect infringement. Opp. at 23-24. The Court therefore GRANTS Apple's motion for summary judgment of no indirect infringement.

### B. Apple's Motion for Partial Summary Judgment of Invalidity

Apple's motion for partial summary judgment of invalidity contends that claims 13, 18, 30, 31, and 39 of the '267 Patent are invalid under 35 U.S.C. § 112(a) for lack of written description or enablement because they improperly encompass subject matter that is not disclosed in the specification. Specifically, in its Motion for Summary Judgment of Noninfringement and Invalidity, Apple explicitly moved for summary judgment of invalidity as to independent claims 1, 30, and 39 of the '267 Patent. Upon questioning from the Court at the hearing on April 3, 2014, Apple clarified that it was also moving for invalidity as to asserted dependent claims 13, 18, 31, and 42 of the '267 Patent. Later at the same hearing, Apple withdrew its assertion of invalidity as

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its opposition and, at the very least, should have moved for leave of the Court to file its additional brief, *see* Civ. L. R. 7-3(d), the Court does not consider this brief in rendering this decision.

to claim 42 of the '267 Patent. The Court asked GPNE whether asserted dependent claims 13, 18, and 31 include any "different frequencies" or "multiple frequencies" limitations that would render the claims valid. GPNE indicated that claims 13, 18, and 31 do not have any "different frequencies" or "multiple frequencies" limitations that would render the claims valid. However, because Apple did not explicitly move on dependent claims 13, 18, or 31 in its motion, the Court allowed GPNE additional briefing to identify any limitations in dependent claims 13, 18, or 31 that render those claims valid notwithstanding Apple's argument that independent claims 1, 30, and 39 are invalid. *See* ECF No. 235. GPNE's additional briefing confirmed that "dependent claims 13, 18 and 31 lack the multiple/different frequencies limitations, and to the extent the Court rules that claims 1, 30 and 39 are invalid for lack of written description as per Apple's summary judgment motion, GPNE can identify no further limitations in dependent claims 13, 18 and 31 that would obviate that issue of alleged invalidity." ECF No. 238, at 1-2.

Patents are presumed to be valid. 35 U.S.C. § 282(a). A party challenging the validity of a patent bears the burden of proving invalidity by clear and convincing evidence. *Microsoft Corp. v. i4i Ltd. P'ship*, 131 S. Ct. 2238, 2242 (2011). Under 35 U.S.C. § 112(a), a patent specification must contain "a written description of the invention."<sup>3</sup> Under this written description requirement, the specification "must clearly allow persons of ordinary skill in the art to recognize that the inventor invented what is claimed." *Ariad Pharm., Inc. v. Eli Lilly & Co.*, 598 F.3d 1336, 1351 (Fed. Cir. 2010) (en banc) (internal quotation marks and alterations omitted). This test requires "an objective inquiry into the four corners of the specification from the perspective of a person of ordinary skill in the art" to determine whether the specification shows that "the inventor actually invented the invention claimed." *Id.* Although "[c]ompliance with the written description requirement is a question of fact," it is, like most factual questions, "amenable to summary judgment in cases where no reasonable fact finder could return a verdict for the non-moving party." *PowerOasis, Inc. v. T-Mobile USA, Inc.*, 522 F.3d 1299, 1307 (Fed. Cir. 2008).

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<sup>3</sup> The passage of the AIA did not materially affect the written description, utility, or enablement requirements. The AIA redesignated the provisions of section 112, such that what was previously designated the first paragraph of section 112 is now designated section 112(a). *See* AIA § 4(c). For convenience, the Court refers to the redesignated provision of section 112.

As to enablement, the *en banc* Federal Circuit has noted that “written description and enablement often rise and fall together.” *Ariad*, 598 F.3d at 1352. “In order to satisfy the enablement requirement of section 112, an applicant must describe the manner of making and using the invention ‘in such full, clear, concise, and exact terms as to enable any person skilled in the art . . . to make and use the same . . . .’” *Rasmusson v. SmithKline Beecham Corp.*, 413 F.3d 1318, 1322 (Fed. Cir. 2005) (quoting 35 U.S.C. § 112). This means that the specification must be sufficiently enabling such that “at the time of filing the application one skilled in the art, having read the specification, could practice the invention without undue experimentation.” *Cephalon, Inc. v. Watson Pharm., Inc.*, 707 F.3d 1330, 1336 (Fed. Cir. 2013) (quotation omitted). Whether a disclosure is enabling under 35 U.S.C. § 112(a) is a question of law based on underlying factual inquiries. *See Enzo Biochem, Inc. v. Calgene, Inc.*, 188 F.3d 1362, 1369 (Fed. Cir. 1999).

Turning to the claims at issue, claim 1 of the ’267 Patent recites:

1. A first node in a data network, the data network including a plurality of nodes including a first node, the first node comprising:
  - at least one processor;
  - a memory providing code to the least one processor; and
  - an interface controlled by the least one processor to:
    - transmit a random access request signal in a first slot, the random access request signal including information that allows determination that the first node requires an allocation of resources to transmit a reserve access request signal;
    - receive a first grant signal subsequent to transmission of the random access request signal, said first grant signal including information relating to an allocation of a second slot to the first node for transmitting the reserve access request signal for transmitting first data packets containing a message;
    - transmit the reserve access request signal in the second slot in response to the first grant signal;
    - receive a second grant signal subsequent to transmission of the reserve access request signal, said second grant signal including information relating to an allocation of additional resources for transmitting the first data packets; and
    - transmit the first data packets in response to the second grant signal, wherein the first data packets can be transmitted during transmission of a request signal by a second node into a third slot assigned to the second node.

Apple argues that claims 13, 18, 30, 31, and 39 of the '267 Patent are not limited to a node that carries the claimed signals on different frequencies, and the '267 Patent does not describe any implementation of the invention that does not carry the signals on different frequencies. Consequently, Apple contends that GPNE's claims to subject matter broader than a node that carries the claimed signals on different frequencies are not sufficiently described or enabled by the specification. For the reasons set forth below, the Court agrees, and thus GRANTS Apple's motion for partial summary judgment of invalidity as to claims 13, 18, 30, 31, and 39 of the '267 Patent.

First, the Court notes that the entirety of the '267 Patent's "Summary" section discusses "four local frequencies" and "four common frequencies," never indicating that the claimed signals may be transmitted on the same frequency. '267 Patent at 1:66-2:17. In fact, GPNE only directs the Court to a single sentence of the '267 Patent that GPNE asserts describes the invention as encompassing transmissions on the same frequency. In full, this sentence reads, "In the illustrated embodiment, the frequencies  $f_1 - f_4$  are preferably chosen so that  $f_1 \neq f_2 \neq f_3 \neq f_4$ ." *Id.* at 4:41-43. Although this sentence's use of the word "preferably" indicates that another embodiment may use the same frequency for more than one signal, GPNE concedes that the '267 Patent nowhere discloses the invention using a single frequency. Furthermore, patent drafters commonly employ the term "preferably" to avoid unintentionally foreclosing broader claim scope. One generic use of the term "preferably" without any other indication in the entire '267 Patent that the invention can transmit signals using a single frequency is not enough to overcome the '267 Patent's constant description of the invention as requiring at least four different local and four different common frequencies. *See, e.g.*, '267 Patent at 1:66 ("A two-way paging system utilizes four local frequencies"); *id.* at 2:11-12 ("a total of eight frequencies are utilized within any one cell"); *id.* at 4:31-32 ("Communication between central control station 20 and pager unit 22 occurs on the four local frequencies"); *id.* at 9:38-41 ("Thus, each central control station utilizes two sets of frequencies, there being four frequencies in each set, resulting in a total of eight frequencies handled per station."); *id.* at 9:47-52 ("While the values of the local frequencies  $f_{L1}, f_{L2}, f_{L3}, f_{L4}$ , vary from cell to cell (e.g., differ for differing central control stations 420<sub>x</sub>), the values of the common or switch frequencies  $C_1, C_2, C_3, C_4$  are uniform through the system (e.g., for all central

control stations 420<sub>x</sub>).”). In the face of the full specification’s description of transmitting signals over different frequencies, the use of “preferably” in one sentence cannot demonstrate that the inventor actually possessed the invention with the use of a single frequency. *Ariad*, 598 F.3d at 1351. Even more apparent is the fact that one statement that (arguably) says that the invention is not limited to the use of four frequencies cannot enable the use of one frequency to carry more than one signal. In fact, no testimony suggests that a person of ordinary skill in the art who could develop the different frequency embodiment of the invention could also develop an embodiment of the invention that transmits over a single frequency without undue experimentation. *Cephalon*, 707 F.3d at 1336.

Reviewing the patent family’s prosecution history confirms the Court’s conclusion that the ’267 Patent does not describe or enable a single frequency embodiment. During prosecution of related Patent Application No. 11/449,187, which later issued as Patent No. 7,728,439, the examiner rejected four claims for lack of enablement by the exact same specification, precisely because the claims were so broad as to encompass an embodiment using a single frequency. In particular, the examiner stated that:

At least four different frequencies usage between the central control station and nodes are critical or essential to the practice of the invention, but not included in the claim(s) is not enabled by the disclosure. See *In re Mayhew*, 527 F.2d 1229, 188 USPQ 356 (CCPA 1976). Without the different frequencies the applicant’s invention would not be functional (see para. 0034 of the original specification). According to figures 6, 9 and 13, all show the essential of the frequencies. Without the critical elements of different frequencies, the applicant’s invention is not enabled.

ECF No. 187-18, Green Decl. Ex. Q, at 2-3. To overcome this rejection, the patentee amended the rejected claims “to claim the ‘different frequencies’ feature to comply with the Office Action.” ECF No. 187-19, Green Decl. Ex. R, at 15. Furthermore, the examiner’s mention of “para. 0034 of the original specification” refers to the paragraph *GPNE* cites *in support* of its broad claims being sufficiently described and enabled. Clearly, the patent examiner considered the paragraph *GPNE* contends is enabling and explicitly found it lacking sufficient disclosure. Rather than dispute the examiner’s finding, *GPNE* chose in prosecution to limit the invention to different frequencies to overcome the rejection.

The case law also supports a finding of invalidity. The enablement “doctrine prevents both inadequate disclosure of an invention and overbroad claiming that might otherwise attempt to cover more than was actually invented. Thus, a patentee chooses broad claim language at the peril of losing any claim that cannot be enabled across its full scope of coverage.” *MagSil Corp. v. Hitachi Global Storage Techs., Inc.*, 687 F.3d 1377, 1381 (Fed. Cir. 2012). The Federal Circuit has several times previously invalidated broad claims for lack of written description or enablement when they are not limited to the invention disclosed in the specification. For example, in *Auto. Techs. Int’l, Inc. v. BMW of N. Am., Inc.*, 501 F.3d 1274 (Fed. Cir. 2007), the court held that “[d]isclosure of only mechanical side impact sensors does not permit one skilled in the art to make and use the invention as broadly as it was claimed, which includes electronic side impact sensors.” *Auto. Techs.*, 501 F.3d at 1285. Similarly, the Federal Circuit has invalidated claims encompassing movies and video games when the specification only disclosed applying the invention to video games. *Sitrick v. Dreamworks, LLC*, 516 F.3d 993, 1000-01 (Fed. Cir. 2008). Here, as in *Auto. Techs.* and *Sitrick*, the ’267 Patent fully describes and enables the invention using multiple frequencies, but the claims are written to broadly encompass the use of a single frequency, which the specification never mentions. Such broad claims are therefore invalid for covering more than was actually invented. *MagSil*, 687 F.3d at 1381.

Finally, GPNE argues that its expert, Dr. Dinan, counsels against finding that the claims at issue are not sufficiently described or enabled. However, Dr. Dinan’s report adds nothing to GPNE’s argument, as it refers to the same sentence GPNE advances in its brief as describing and enabling the invention using one frequency, and then immediately concludes: “I view this as disclosing that the inventor was in possession of the claimed inventions without multiple frequency limitations.” Dinan Expert Report ¶ 233. Dr. Dinan does not explain any basis for his conclusion, nor does he indicate how a person of ordinary skill in the art could make the invention using a single frequency from the ’267 Patent’s disclosure. GPNE cannot create an issue of fact with such a conclusory expert statement. *Sitrick*, 516 F.3d at 1001 (“Conclusory expert assertions cannot raise triable issues of material fact on summary judgment.”). Therefore, Dr. Dinan’s report does not allow GPNE to sidestep partial summary judgment of invalidity.

In conclusion, claims 13, 18, 30, 31, and 39 of the '267 Patent are invalid by clear and convincing evidence for lack of written description and enablement. As the patent examiner for a patent application with the same specification and prosecuted alongside the '267 Patent found, "[w]ithout the different frequencies the applicant's invention would not be functional . . . . Without the critical elements of different frequencies, the applicant's invention is not enabled." ECF No. 187-18, Green Decl. Ex. Q, at 2-3. GPNE cannot point to a single word in the specification that directly discusses the invention using anything but different frequencies. Further, GPNE provides no more than a conclusory expert statement as evidence to support concluding that the inventor possessed the full scope of the invention as claimed. GPNE's own expert even concedes that "there is no embodiment disclosing two or more of those signals in the same frequency." ECF No. 187-2, Green Decl. Ex. A, Dinan Deposition Tr. at 108:15-22. Therefore, Apple has proven by clear and convincing evidence that claims 13, 18, 30, 31, and 39 of the '267 Patent lack written description and are not enabled.

#### **V. CONCLUSION**

For the foregoing reasons, Apple's Motion for Summary Judgment of Noninfringement is DENIED as to direct infringement and GRANTED as to indirect infringement. Apple's Motion for Partial Summary Judgment of Invalidity is GRANTED. Claims 13, 18, 30, 31, and 39 of the '267 Patent are invalid.

**IT IS SO ORDERED.**

Dated: April 9, 2014

  
 LUCY H. KOH  
 United States District Judge